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| APPLICATION NO.  | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO.           | CONFIRMATION NO. |
|--|-------------|----------------------|-------------------------------|------------------|
| 10/616,759   | 07/09/2003  | Kee Yean Ng          | 70021175-1                    | 2290             |
| 57299  | 7590        | 10/10/2007           |                               |                  |
| Kathy Manke<br>Avago Technologies Limited<br>4380 Ziegler Road<br>Fort Collins, CO 80525 |             |                      | EXAMINER<br>REAMES, MATTHEW L |                  |
|  |             |                      | ART UNIT                      | PAPER NUMBER     |
|  |             |                      | 2891                          |                  |
|  |             |                      | NOTIFICATION DATE             | DELIVERY MODE    |
|  |             |                      | 10/10/2007                    | ELECTRONIC       |

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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## Office Action Summary

Application No.

10/616,759

Applicant(s)

NG ET AL.

Examiner

Matthew L. Reames

Art Unit

2891

**– The MAILING DATE of this communication appears on the cover sheet with the correspondence address –  
Period for Reply**

**A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.**

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 17 July 2007.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 7 and 17-24 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 7 and 17-24 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

## DETAILED ACTION

### ***Claim Rejections - 35 USC § 112***

1. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claim 17 is rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. Applicant failed to teach or disclose a phosphor that was soluble.

4. Claims 22 and 24 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. Applicant has failed to teach or suggest a planar cap in conjunction with a spherical cap. Applicant has only taught a spherical cap and planar cap but never in combination.

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5. Claim 17 rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. It is unclear what the phosphor is soluble in. Further every solid is soluble in something (i.e. acid).

6. Claims 22 and 24 rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. It is unclear how the cap can be both planar and spherical at the same time.

### ***Claim Rejections - 35 USC § 102***

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

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2. Claim 7,17, 21,22,24,23 are rejected under 35 U.S.C. 102(b) as being anticipated by Kawae (previously cited).

a. As to claim 7,17,21 Kawae teaches mounting a chip having a primary light source on a substrate, said primary light source emitting light of a first wavelength (see e.g. fig. 9). Connecting power terminal on said chip to corresponding power terminals on said substrate for powering said light source (see e.g. fig. 9). and mounting a preformed transparent cap over said chip, said cap comprising a wavelength converting material for converting a portion of said first wavelength to a second wavelength, wherein the said transparent cap comprises a spherical surface and has a constant thickness (see e.g. fig. 9 and paragraph 59). Wherein the phosphor is inherently soluble. Kawae teaches the phosphors are suspended in a clear material (see e.g. fig. 9).

b. As to claim 19, Kawae teaches an LED.

c. As to claim, 22,24, Kawae teaches a uniform planar cap (see e.g. fig. 8).

d. As to claim 23, Kawae teaches a LED placed in an inverted cavity (reflector cup) (see e.g. fig. 10).

3. Claims 7,17-24 are rejected under 35 U.S.C. 102(e) as being anticipated by Ibbetson (US 20050093430).

a. Ibbetson teaches encapsulating laser and LEDs (paragraph 35) with a soluble phosphor suspended in a uniform thickness cap (see e.g. item 38).

Ibbetson teaches where the cap maybe planar or spherical (see e.g. figs).

Ibbetson teaches a glass material (see claim 7). Further, Ibbetson teaches the

use of a inverted cavity with the light emitter positioned in the cavity (see e.g. figs).

***Claim Rejections - 35 USC § 103***

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 18,20 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kawae in view of Lin (previously cited).

a. As to claim 18, Kawae does not teach glass.

Lin teaches a glass encapsulant.

Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention to have used a glass encapsulant of Lin to create the phosphor cap of Kawae.

One would have been so motivated in order to provide a durable cap, and further glass would have been desired for its optical properties.

b. As to claim 20, Kawae teaches an LED does not explicitly teach a laser diode.

Lin teaches encapsulating laser.

Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention to have encapsulated lasers using the method of Kawae.

One would have been so motivated in order to provide a cover at a reduced cost for lasers as well as LED (see paragraph 5).

### ***Conclusion***


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Matthew L. Reames whose telephone number is (571)272-2408. The examiner can normally be reached on M-Th 6:30-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, B. William Baumeister can be reached on (571)272-1722. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

MLR



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